

REMARKS

Claims 1-16 are pending in the application. Independent claims 1 and 13-15 have been amended by the present amendment. The amendments are fully supported by the application as originally filed (see, e.g., specification at page 14, lines 4-7; page 18, lines 14-23; page 19, lines 5-11; page 44, line 21 to page 45, line 1; and FIGS. 6, 7, 11, and 14).

As amended, independent claim 1 recites an asymmetrical multiprocessor system having a plurality of processors for executing a plurality of unit jobs, "the unit jobs being included in processes to be applied to the main scanning line data," the system including: a unit job processing information generating means "into which image data read by an image reading apparatus is inputted" for generating a main scanning line number "that indicates an order of main scanning line data read at a certain interval in a main scanning direction of the image reading apparatus"; and unit job scheduling means for determining an order of execution of the unit jobs and to which processors the unit jobs are allocated. Independent claims 13-15 include similar limitations.

For example, as described on page 14, lines 4-7 of the specification, a scanner section 12 outputs main scanning line data to an image processing section 13 to be processed "at a certain interval in accordance with a scanning speed." The image processing section 13 judges "whether or not main scanning line data has been received from the scanner section 12," and if received, a one-line processing operation for that line is started (see page 18, lines 14-23). As described on page 19, lines 5-11, in the one-line processing operation, various unit jobs are sequentially performed, including "a shading correction process (S22), an input gamma correction process (S24), ..." Further, referring to page 44, line 21 to page 45, line 1, the unit job scheduling means determines, based on the main scanning line number, the order of execution of unit jobs (i.e., "the unit job whose main scanning line number is smaller is selected preferentially"). Referring to FIGS. 6, 7, 11, and 14, a job allocated to each core (processor) has the "target main scanning line number," indicating that the claimed "unit job processing information" includes the main scanning line number.

As claimed, each of plural kinds of unit jobs are "included in processes to be applied to the main scanning line data" (see independent claims 1 and 13-15). The Applicant's claimed "main scanning line number," which indicates an order of the main scanning line data, is referred to when the unit jobs are allocated to a plurality of processors.

According to the Applicant's claimed invention, the unit jobs can be sequentially executed with respect to the main scanning line data. Therefore, it is possible to start the processes before an entire image is read, which can speed up processing of the unit jobs, since the unit jobs are allocated to processors as soon as the main scanning line data is read, thus efficiently carrying out image processing. Further, because the claimed invention does not require reading and storing an entire image, the capacity of an external memory can be reduced.

Claims 1-3, 7-11, and 13-16 were rejected under 35 USC 102(b) as being anticipated by U.S. Patent 6,112,023 to Dave et al. ("Dave"). The remaining claims were rejected based on combinations including the Dave reference. These rejections are respectfully traversed.

Regarding the rejection of independent claims 1 and 13-15 over Dave, the Dave reference does not teach or suggest a system, apparatus, or method having a plurality of processors for executing a plurality of unit jobs, "the unit jobs being included in processes to be applied to the main scanning line data," including: a unit job processing information generating means "into which image data read by an image reading apparatus is inputted" for generating a main scanning line number "that indicates an order of main scanning line data read at a certain interval in a main scanning direction of the image reading apparatus"; and unit job scheduling means for determining an order of execution of the unit jobs and allocation of the unit jobs to processors.

In other words, the Dave reference does not relate to sequentially execute unit jobs to be applied to each line data read at a certain interval by an image reading apparatus.

For at least the reasons discussed above, the Dave reference does not anticipate or otherwise render obvious the Applicant's claimed invention. Therefore, independent claims 1 and 13-15 and their respective dependent claims are patentable over Dave.

It is believed that the claims are in condition for immediate allowance, which action is earnestly solicited.

Respectfully submitted,

/Steven M. Jensen/

Steven M. Jensen
(Reg. No. 42,693)
Edwards Angell Palmer & Dodge
P.O. Box 55874
Boston, MA 02205

Date: February 26, 2009

Phone: (617) 239-0100

Customer No. 21874